MOLLUSKS FROM LAKE CHAPALA, STATE OF JALISCO AND VICINITY.

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Professor Francisco Contreras, in the course of his studies of the natural resources of Mexico, has made a small collection of the shells of Lake Chapala. The occurrence of peculiar species of *Planorbis*, *Physa*, and *Anodontites* probably indicates that there is a considerable endemic element in the mollusk fauna of this Mexican lake.

In treating of the Planorbes and Physas of Lake Patzcuaro[1], the writer called attention to the more enlarged last whorl of the shell, compared with the most closely related species found in other Mexican localities. It was conjectured that larger lung capacity might be advantageous to air-breathing snails of this deep lake. The same peculiarity is seen in *Planorbis contrerasi* and *Physa solidissima* of Lake Chapala; but while the shells of Lake Patzcuaro are thin and light, those of Chapala are remarkably solid, perhaps an adaptation to wave-beaten shores.

Polygyra ventrosula (Pfr.).

Chapala. Diameter about 10 mm. Also similar smaller shells, diam. 7.3 mm., which are referable to the variety *hindsii* (Pfr.). Whether these sizes occur in the same colony, or are connected by intermediate sizes, should be noted.

Polygyra matermontana jaliscoensis Pils.

Chapala. This form was described from Guadalajara.

Drymaeus hegewischi (Pfr.).

Chapala.

Planorbis tenuis chapalensis new subspecies. Fig. 1.

The shell is very strong and solid with narrow, deeply sunken spire on the left side. The aperture is piriform, the penult whorl intruding but little.

Greatest diam. 16, alt. at aperture 9.3 mm.

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[1] These PROCEEDINGS for 1891, p. 324.

Laguna de Chapala, State of Jalisco, collected by Prof. Francisco Contreras, March 1, 1920. Type No. 46,194.

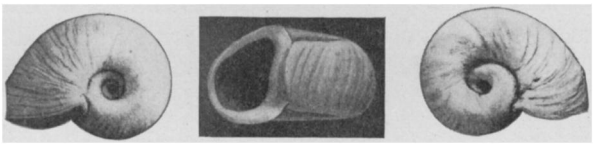

Fig. 1.—*Planorbis tenuis chapalensis.* Enlarged.

Planorbis contrerasi new species, Fig. 2.

The shell is solid; last whorl compressed on the right side, bluntly angular, with funnel- or vortex-shaped umbilicus; left side angular, with rather wide bowl-shaped concavity. *Surface closely striate spirally within both concavities,* seemingly with weak traces of spiral lines over the peripheral part, though the specimens are all so wave-worn that the external sculpture cannot be seen except within the aperture. The aperture is narrow, angular at the ends.

Greatest diameter 14.3, alt. at aperture 10.2 mm.; fully 4 whorls.

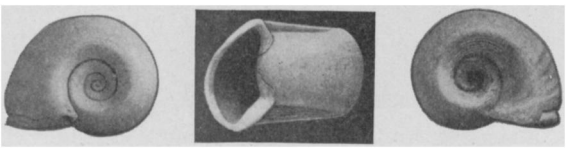

Fig. 2.—*Planorbis contrerasi.* Enlarged.

Laguna de Chapala, State of Jalisco, collected by Prof. Francisco Contreras, March 1, 1920. Type No. 46,193.

While the shape is somewhat like that of *Planorbis tenuis exaggeratus,* of Lake Patzcuaro, this species differs by its solidity and especially by the strongly developed spiral sculpture. It is a very distinct species.

Physa solidissima Pils.

Laguna de Chapala. Dead specimens of this remarkably globose, heavy species are somewhat larger than the type, the largest measuring: length 11.3, diam. 9.5, length of aperture 9.9 mm. The rounded fold of the massive columella is prominent, as in the type.

It is hoped that living individuals can be secured. They may show differences from the ordinary Physas.

Anodontites jaliscoensis n. sp. Fig. 3.

The shell is oblong, the alt. 55 per cent. of the length, the diameter slightly less than one-third the length, moderately solid; isabella

color, paler buff toward the beaks, a little browner toward the lower margin, the epidermis thin with weak growth lines; under the lens showing radial bands of festooned striae in the middle part. Beaks small, somewhat worn, showing no sculpture. The interior is pale Payne's gray with a rather wide matt border; stained with olive-buff in the cavity toward the beaks. There is a dark, iridescent triangle at the posterior end of the hinge.

Length 46, alt. 25.5, diam. 14 mm.

Tolimán, State of Jalisco. Prof. F. Contreras. Type No. 46,197.

This is a longer shell than *Anodonta coarctata* Anton, differing also in external texture, the wide dull border inside, and the deep, triangular "sinulus" at the end of the hinge.

Fig. 3.—*Anodontites jaliscoensis.* Natural size.

Nephronaias aztecorum tolimanensis new subspecies. **Fig. 4.**

Differs from *N. aztecorum* and *N. a. chapalensis* by the smaller size and lower form, the shell not so wide posteriorly.

Length 43, alt. 24.3 mm.

Length 35, alt. 19.3, diam. 11.4 mm.

Tolimán, State of Jalisco. Type No. 46,195.

A specimen from Rio Grande, Zapotitlan, Jalisco, measures: length 54, alt. 28 mm.

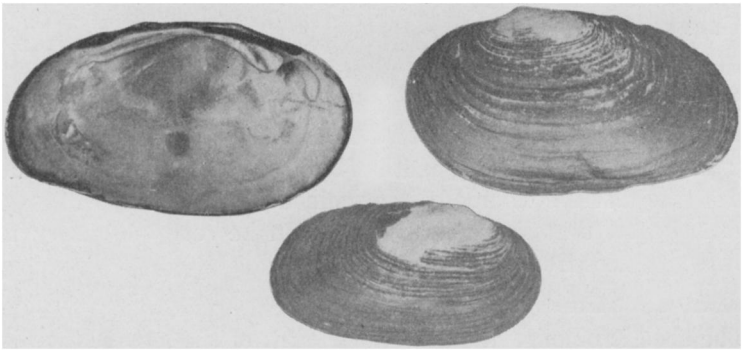

Fig. 4.—*Nephronaias aztecorum tolimanensis.* Natural size.